**EFFECTS OF PROFITABILITY ON CORPORATE CASH HOLDINGS OF COMMERCIAL BANKS IN KENYA**

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**Abstract:**

The profitability of commercial banks in Kenya is important to the creditors, owners, employees and management. This study aimed at assessing the effect of profitability on the corporate cash holdings of Commercial Banks in Kenya. Measures of profitability in this study was the return on assets. The study was guided by signalling theory and pecking order theory. The population of the study comprised of all commercial banks registered and licensed to operate in Kenya as at 31st December 2017. This study adopted a census survey method where all the commercial banks were analyzed. This study heavily relied on secondary data which was obtained from annual reports issued by the CBK Bank Supervision unit. The researcher used the data collection sheet where all the variables were entered after extraction from the financial statements of the banks. This was followed by a data summarization and subsequent data cleaning to ensure that data was ready for analysis. A ten-year (2008-2017) data was considered. Descriptive and inferential statistics were adopted in analysing data through the multiple linear regression by using of Stata software, and Statistical Package for Social Sciences. The data analysed was presented using frequency tables, pie charts, graphs and percentages. The results indicated that profitability of the firms exert a positive effect on corporate cash holdings. Profitability in commercial banks affects corporate cash holdings of the commercial banks to a very great extent. The results shows that investing in cash and marketable securities results into a firm foregoing investment in more productive assets generate opportunity costs. Firms therefore, hold cash because raising funds in capital markets is costlier than having retained earnings. The study thus recommended that adopting a more traditional model such as deposit and loan‐based business model allow a bank to optimize profits with a lower level of liquid assets.

**Key Words***: Cash Holding, Liquidity, Profitability, Net Working Capital, Cash Flows.*

1. **Introduction**

Bank profitability globally is of concern to various stakeholders which are creditors, owners, depositors, debtors, investors, regulators, bank managers and the government (Podder, 2012). However, the profitability of commercial banks is dependent on their cash holding capacity. Commercial banks play an important role as financial intermediaries for savers and borrowers in Kenya. Commercial banks are important to the financial segment, particularly in developing economies where capital markets are not well developed and strong. The concept of profitability is very important both for the non-financial institutions as well as financial institutions and commercial banks are considered to be the major constituents of the financial institutions. The success and growth of commercial banks is mainly dependent on the competitive marketing strategy that their marketing department adopts to help them compete with others in the market (Swarnapali, 2014).

According to a report by Cytonn Investments (2019), there are a total of 42 commercial banks in Kenya. Further, all the commercial banks are regulated by the Central Bank of Kenya (CBK). The Capital Markets Authority (CMA) has additional oversight over the listed banks. All the commercial banks are required to adhere to certain prudential regulations such as minimum liquidity ratios and cash reserve ratios with the CBK. The CBK is normally responsible for formulating and implementing the monetary policy adopted by the Kenyan government and ensuring there is liquidity, solvency and proper functioning of the financial system in the country. The entity also publishes valuable information related to the banking industry in Kenya and the non-banking financial institutions, as well as information about the interest rates prevalent in the country and other publications and guidelines.

# The Problem

Profitability of the banking sector is central to the whole economy in general as the soundness of commercial banks is largely dependent on their financial performance which is normally used to indicate the strengths and the weaknesses through cash holding. A well-functioning and profitable banking industry very crucial role in the allocation of economic resource of countries by helping to channel funds from depositors to investors in a flawless manner. In the 2018 CBK report on bank performance, it was noted that a number of commercial banks struggled to reach profitability. It was further indicated that commercial banks are now facing a number of challenges that have brought their profitability under pressure but did not specifically and conclusively indicate or cite what the factors are (CBK, 2018). It is therefore essential to carry out the study on specific factors that effect profitability of commercial banks. This was achieved by analysing a variety of ratios used of which Return on Asset, Return on Equity and Net Interest Margin are the major ones. Therefore, this study was conducted to fill this gap by investigating effects of profitability on corporate cash holdings of commercial banks in Kenya.

# Objectives of this paper

The main objective of the study was to identify the effects of profitability on corporate cash holdings of commercial banks in Kenya. The research sought to answer how the trends and influence of profitability affect corporate cash holdings.

# Literature Review

**4.1 Theoretical Review**

This section reviews the signalling theory and Pecking Order Theory as the underlying theories to explain the profitability concept.

**4.1.1 Signalling Theory**

The signalling theory originated from Arrow (1972) and Spence (1973) who presupposed that best performing or profitable firms supply the market with positive and better information. In addition, the signalling theory is one of the theories, which have a clarification for the association between profitability and cash holding. This theory presupposes that a larger cash holding is an optimistic signal to market worth of the organization. The signalling theory further postulates that majority of the profitable firms signal their competitive power through communicating new and important information to market. Thus, information is disclosed by means of specific indicators or ratios which, very often, measure specific conditions on which to enter into or renew the agency contract. Thus, the signalling theory affirms that when a bank’s performance is excellent, directors will signal the banks performance to its stakeholders and market by making various disclosures which poor performing firms cannot make. By enhancing more disclosure most managers will wish to receive high benefits and a good reputation which may increase the value of the firm and profitability

**4.1.2 Pecking Order Theory””**

Pecking order theory is grounded by the works of Myers and Majluf (1984). According to the theory, firms have an order when making decisions on which funding to utilize on investments. Firms would prefer to use the internal generated funds to finance its investment projects. They would also proceed and adjust their dividend levels even if there is a fixed dividend policy being followed. Later on, the firms would trade liquid assets and use external financing as the last resort.”

According to the pecking order hypothesis, firms should choose to use retained earnings as their first source of financing in order to minimize the costs of information asymmetry and other financing costs. This source of funding is followed by safe and risky debt respectively, and if no other source of financing is available, the firm may resort to issuing equity (Myers & Majluf, 1984). The reason that equity is seen as the least favorable financing option according to the pecking order theory is that offering new equity is very expensive for firms due to information asymmetry (Opler, Pinkowitz, Stulz and Williamson, 2006). This offers an explanation as to why organizations opt to depend on retained earnings as a source of financing their investments, followed by debt financing, and finally equity.

**4.2 Conceptual Framework**

The conceptual framework conceptualized and represented the relationships between variable in the study and showed the relationship graphically or diagrammatically.

**Profitability**

* ROA
* ROE,
* NIM

**Corporate Cash Holding**

* Total cash & cash equivalent
* Total Asset

Figure 1: Conceptual Framework

Commercial Bank Managers of holding excess cash have considerable discretion to employ excess cash to fund new capital investments, invest in research and development, pursue acquisitions, pay dividends, repurchase shares, reduce debt, or to simply continue holding the excess cash. The Managers may hold cash for reasons that are not in the best interests of shareholders. By holding excess cash, managers can avoid raising funds externally which can submit their firms to the disciplining scrutiny of external capital markets. Managers can use excess free cash flows to then pursue their own spending objectives.”

1. **METHODOLOGY**

**5.1 Research Design**

This study employed a multimethod research design. According to Mingers (2003), use of multimethod research design produces richer and more reliable results. The study therefore adopted the descriptive and explanatory research designs. According to Cooper and Schindler (2011), descriptive study is used to describe or define, often by way of profiling a group of problems, people or events through data collection and tabulation of frequencies research variables or their interactions. According to Rahi (2017), explanatory research establishes and explains a situation or problem in the form of causal relationships between variables under study.

**5.2 Target Population**

According to Ngechu (2006), a population is a complete set of individuals, cases, or objects with some common observable characteristics. A particular population has unique characteristics differentiating it from other population. Ngechu (2006) further indicates that a target population is a group of individuals, event or objects which a researcher wants to generalize the findings. The population of the current study comprised of all commercial banks registered and licensed to operate in Kenya as at 31st December 2017.

**5.3 Sampling and Sampling Techniques**

Cooper and Schindler (2011) reported that sampling refers to the selection of a proportionate representation from the total population under study. It enables to lower cost, give accuracy of results, and increase speed of data collection and availability of population elements. According to Collins and Hussey (2009), sampling technique is a method of selecting elements from a study population that will represent the entire population. This study adopted a census survey method where all the commercial banks were analyzed. This sampling technique was chosen because the units of analysis were few as per the time the study was conducted.

**5.4 Data Collection Instruments and procedure**

This study heavily relied on secondary data which was obtained from annual reports issued by the CBK Bank Supervision unit. The researcher used the data collection sheet where all the variables were entered after extraction from the financial statements of the banks. This was followed by a data summarization and subsequent data cleaning to ensure that data is ready for analysis.

## 5.5 Validity **and Reliability**

Given that the study focused on the collection of secondary data from commercial banks a pretest and pilot survey was conducted to test the accuracy, robustness and versatility. The reliability was tested using Cronbach’s alpha a method used as a coefficient of internal consistency (Cronbach’s, 1951). It is commonly used as an estimate of the reliability of a psychometric test for a sample of examinees by checking inter item correlation matrices and eliminating non critical items. An alpha of 0.7 and above is considered acceptable for the present study. The actual value obtained when a validity test was carried out for the present study was at an alpha of 0.942; it was therefore deemed suitable and reliable.

## **5.6 Data Analysis**

The relationship between the independent variables and the dependent variables was determined by use of correlation and multiple regression analysis. The data was prepared and analyzed using Microsoft (MS) Excel and STATA package version 13. The data was presented using graphs and table so as to provide a clear picture of the research findings. A ten-year (2008-2017) panel data was considered in the study.

1. **RESULTS**

**6.1 Descriptive Statistics**

**6.1.1 Trend of performance of Kenya’s commercial banks**

The study sought to establish the trend of performance of the commercial banks in Kenya. Secondary data was collected from the banks’ financial statements and reports for the years between 2008 and 2017. The study collected data on Return on Assets which was measured as the amount of net income returned as a percentage of total assets. The study observed that there was intermittent performance of banks in terms of ROA between 2008 and 2017, with the highest growth rate being recorded between 2010 and 2011. This may be perhaps explained by the presence of favourable economic growth environment prevailing at that time. This agrees with another study by Ali (2011) who observed that when economic growth increases profitability also increases.

**6.2 Inferential Statistics**

Inferential statistics allowed the researcher to draw conclusions about the population on the basis of data obtained from samples. It was used to draw conclusions about the population itself. Pearson correlation coefficient and t-test for regression coefficients analysis results are presented in this section to evaluate the relationship between the dependent and independent variable. ANOVA test was done to establish if there was a significant difference in the means. Coefficient of determination (R square) explains the extent to which change in the dependent variable can be explained by the change in the independent variables or the percentage of variation in the dependent variable that is explained by the independent variables.

**6.2.1 Correlation**

In order to establish the strength and direction of that relationship, the profitability index was correlated with corporate cash holding index using Pearson’s correlation at 0.05% level of significance. The profitability index was the summation of items that measured corporate cash holding index. Correlation results for profitability on corporate cash holding were obtained.

**Table 1: Correlation Matrix of Profitability and corporate cash holding**

|  | | | |
| --- | --- | --- | --- |
|  |  | ***Profitability*** | ***Corporate Cash Holding*** |
| ***Profitability*** | Pearson Correlation | 1 | .517\* |
| Sig. (2-tailed) |  | .011 |
| ***Corporate Cash Holding*** | Pearson Correlation | .517\* | 1 |
| Sig. (2-tailed) | .011 |  |
| \*. Correlation is significant at the 0.05 level (2-tailed). | | | |

The results of the hypothesis indicated that there was a mild relationship between profitability and corporate cash holding and was statistically significant (r=0.517, p=0.011). The study sought to determine whether profitability had any significant effects on corporate cash holding. The correlation results indicated significance in relationship (r = 0.517, p = .011) and that led to the rejection of the null hypothesis.

**6.2.2 Regression Analysis of the Findings**

Regression analysis was used to produce a best fit line to predict independent variables from the dependent variable. This analysis was used to determine how the independent variables influenced the depend variable, to what extent each independent variable affected the dependent variable and which of those factors are more significant. The overall relationships between the dependent and independent variables was of the most importance in a linear regression model. A negative value simply means that the expected value on the dependent variable will be less than 0 when all independent/predictor variables are set to 0. The researcher conducted a multiple linear regression analysis so as to find out the effects of profitability on the corporate cash holdings of commercial banks in Kenya.

**Table 2: Model Summary”**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Model** | **R** | **R Square** | **Adjusted R Square** | **Standard Error of the Estimate** |
| **1** | 1 | 0.667α | 0.556 | 0.521 |

1. “Predictors: (Constant) profitability”
2. “Dependent variable: Corporate cash holdings”

From the study findings, profitability (that is, ROA, ROE and NIM), explain 55% of variance in banks profitability as represented by the R2. This means that other factors not studied in this research contributed 45% of variance in the dependent variable.

**6.2.3 ANOVA**

Analysis of Variance (ANOVA) consists of calculations that provide information about levels of variability within a regression model and form a basis for tests of significance. ANOVA is carried out in order to provide a more in-depth analysis of the data.

**Table 3: ANOVA**

| **Model** | | **Sum of Squares** | **df** | **Mean Square** | **F** | **Sig.** |
| --- | --- | --- | --- | --- | --- | --- |
| 1 | **Between groups** | 150.708 | 1 | 37.677 | 124.794 | .000a |
| **Within groups** | 140.390 | 38 | .302 |  |  |
| **Total** | 291.098 | 39 |  |  |  |
| 1. Predictors: (Constant), Profitability 2. Dependent Variable: Corporate Cash Holding | | | | | | |

Analysis of Variance (ANOVA) consists of calculations that provide information about levels of variability within a regression model and form a basis for tests of significance. The "F" column provides a statistic for testing the hypothesis that all = 0 against the null hypothesis that /= 0 (Weisberg, 2005). From the findings the significance value is .000 which is less than 0.05, thus the model is statistically significance in predicting how profitability impact on the corporate cash holding of commercial banks in Kenya. The F critical at 5% level of significance was 3.23 Since F calculated (value = 124.794) is greater than the F critical (3.23), this shows that the overall model was significant and this showed that the model had a good fit.

**6.2.4 Multiple Linear Regression**

**Table 4. Multiple linear regression results**

| Model | | Unstandardized Coefficients | | Standardized Coefficients | T | Sig. | Collinearity Statistics | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| B | Std. Error | Beta | Tolerance | VIF |
| 1 | (Constant) | 0.117 | .187 |  | 0.631 | .006 |  |  |
| Profitability | 0.674 | .238 | .218 | 0.253 | .000 | .0702 | 1.425 |

According to the regression equation established, taking all factors into consideration constant at zero, the effect of profitability on corporate cash holding was .117. The study findings showed that there is a significant positive relationship between profitability and corporate cash holding (β=0.674 and P Value < 0.05). Therefore, a unit increase in profitability leads to an increase in corporate cash holding by 0.674. The variance inflation factor (VIF) value for profitability was lesser than 10, and the Tolerance was also less than 0.1, thus there were no concerns over multi-collinearity. This led to the conclusion that profitability was an all important factors in corporate cash holding in commercial banks in Kenya.

# RECOMMENDATIONS AND AREAS FOR FURTHER STUDY

Additional research can be carried on the effect of industry specific factors like competition, market size on profitability of commercial banks. This study used Return on Assets (ROA) to measure profitability however; there are measures like net interest margin, net profit margin and Return on Equity, which can be applied, in the banking industry to establish the effect of bank specific factors on profitability It would be worthwhile if a replica of this study could be conducted but this time round covering a longer duration of time say fifteen years using a longitudinal form of a research design in order to find out the cause and effect of the determinants on commercial banks financial performance. The business environment where commercial banks operate is uncertain due to macro-economic factors such as technology, regulations, and politics among others that keeps on fluctuating. Thus, the researcher suggests that a study of a similar nature should be conducted after a period of 5-15 years to determine if the findings realized in this study will hold. A replica of this study should be conducted in a different industry such as insurance industry. This way, the researcher can do a comparison of findings after which a comprehensive and reliable conclusion can be drawn. Alternatively, future research should re-apply the current study in the future with a focus on a different period of time.

1. **CONCLUSIONS.**

The conclusion of the research is guided by the findings of the study. The findings of the study are in line with the specific objectives of the study. Profitability of the firms exert a positive effect on corporate cash holdings. Profitability in commercial banks affects corporate cash holdings of the commercial banks to a very great extent. Profitability as measured by Return on Assets (ROA) show a positive and significant relationship with cash holding. Investing in cash and marketable securities results into a firm foregoing investment in more productive assets thus generating opportunity costs. Managers of firms that exhibit high cash flow volatility may hold more cash to ensure the ability to invest in new profitable projects given that internally-generated cash flows exhibit high levels of volatility. Firms hold cash because raising funds in capital markets is costlier than having retained earnings. There is a statistically significant association between return on assets with Bank’s cash holdings and lastly Commercial Banks with higher profitability keep large cash balances.

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